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## THE SOCIOLOGY OF THE BICYCLE

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THE BICYCLE came to America three times. The first two models, of 1819 and 1869, were duds, but the third, brought here in 1879, was the real thing, and brought an explosion which can only be—and, indeed, was—called a “bicycle boom.”<sup>1</sup>

Perhaps the primary reason for this phenomenon was a mechanical one: the 1879 “bike” was the best made. The 1819 model, known first as the “dandy-horse” and later as the velocipede, was brought to this country from England. It consisted of two wheels of equal size connected by a long wooden bar; the operator straddled this bar and propelled the machine by walking or running along the ground. Once the rider built up some speed he would lift up his legs and glide until the force petered out. Going downhill, the cyclist did not have to do anything but coast and hope that he would not run into anything—for the machine had no brakes.<sup>2</sup> There was a brief flutter of excitement over this vehicle, centering in Boston and Philadelphia where riding schools opened; but soon the novelty wore off and the machine disappeared from sight.<sup>3</sup>

With the 1869 model, the rider's foot power was used somewhat more subtly; cranks were placed on the front wheel. This machine had wooden wheels with iron tires; it was heavy and cumbersome, and did not ride smoothly, especially over the roads of the seventies. For these reasons the machine was called, not too affectionately, the “bone crusher.”<sup>4</sup> By 1871 it, too, passed from the American scene.<sup>5</sup>

But in 1879 came the first successful wheel, again from England, and soon afterward, Colonel Albert A. Pope, the father of the American bicycle,

began to manufacture it in Boston.<sup>6</sup> This machine, known as the ordinary or high bicycle, made good speed, and its solid rubber tires gave a smoother ride. But it was awkward to mount because the seat was perched on top of the front wheel, which was four to five feet in diameter. Balance, too, was very difficult and a quick stop or the slightest roughness on the road would throw the driver in a fall which, in the popular jargon, became known as a “header.”<sup>7</sup> The vehicle was propelled by pedals on the front wheel, another factor which made smooth braking a rarity. This bicycle became only moderately popular and mostly among young and athletic males.<sup>8</sup> It lingers on today as a favorite prop of clowns and vaudevillians.

Finally, in 1885 the safety bicycle, which made cycling possible for young and old of both sexes, was developed in England. Several factors made this machine simpler and safer to ride. The two wheels were each about two feet in diameter and hence the vehicle was easier to mount; a saddle rested on an iron frame between the wheels. The machine was driven by a sprocket and chain attached to the rear wheel and moved by pedals below the saddle.<sup>9</sup> In 1890 the invention of the pneumatic tire assured its success by greatly increasing its speed, comfort, and ease of propulsion.<sup>10</sup> It was in fact substantially the same bicycle that we use today.<sup>11</sup>

This is not to say that the adoption of the bicycle came spontaneously and without the opposition that so often accompanies social innovation. As has been shown above, the first group of cyclists in the eighties was an eager and athletic one, which

<sup>6</sup> A. G. Batchelder, “The Story of the Bicycle,” *Harper's Weekly*, XL (April 11, 1896), 359.

<sup>7</sup> Albert A. Pope, “The Bicycle Industry,” Chauncey M. Depew (ed.), *One Hundred Years of American Commerce* (New York, 1895), II, 551.

<sup>8</sup> *Ibid.*

<sup>9</sup> Archibald Sharp, *Bicycles and Tricycles* (London, New York, and Bombay, 1896), pp. 153–159.

<sup>10</sup> *Ibid.*, pp. 159–160.

<sup>11</sup> The suspension wheel, the ball bearing, weldless steel tubing, and the coaster brake were all introduced in this period. Axel Josephsson, *op. cit.*, p. 332.

<sup>1</sup> “Effect of the Bicycle Boom on Trade,” *Scientific American*, LXXIV (June 27, 1896), 407.

<sup>2</sup> Luther H. Porter, *Cycling for Health and for Pleasure* (Boston, 1890), p. 23.

<sup>3</sup> Axel Josephsson, “Bicycles and Tricycles,” William R. Merriam, director, *Twelfth Census of the United States, 1900, Manufactures* (Washington, 1902), part IV, 331.

<sup>4</sup> *Ibid.*, p. 331.

<sup>5</sup> *Ibid.*

gave little regard to the rights of others as they "scorched" over the highways training for record-breaking attempts.<sup>12</sup> Later cyclists, though tamer, inherited the antagonism of horsemen and teamsters. The latter, accustomed to having the roads to themselves, resented the intrusion, especially because the newcomers frightened horses and caused runaways.<sup>13</sup> The hostility between the two groups took various forms. Often the horsemen and teamsters deliberately turned on the cyclists and ran them down.<sup>14</sup> Fist-fighting between wheelmen and draymen was frequent and fierce.<sup>15</sup>

Sometimes pedestrians, who were irked by the cyclists, teamed up with the horsemen and passed laws prohibiting the riding of bicycles in public parks and drives. But in 1879 wheelmen won an important victory when a Massachusetts court ruled that "bicycles cannot be deemed as nuisances but are entitled to the reasonable use of the highways."<sup>16</sup> A few years later the Treasury Department classified bicycles as carriages rather than as steel products, which meant a ten percent reduction in the tariff.<sup>17</sup>

To further this legal struggle as well as for other reasons, the League of American Wheelmen was formed on May 31, 1880.<sup>18</sup> American cyclists were fortunate in having the aggressive and influential League to protect their interests. Throughout its history, the L.A.W. kept its pledge "to promote the general interests of bicycling; to ascertain, defend, and protect the rights of wheelmen."<sup>19</sup> It was through the League's efforts in several test cases that the laws which were applied to carriages came to be applied to bicycles as well.<sup>20</sup>

Another group was not so much opposed to cycling as it was to using the "bike" on Sundays. Perhaps it would not have been so terrible to break the Sabbath if the offense had consisted in carrying the riders to church instead of to the country. On the contrary, according to a New Haven clergy-

man, the road of the cyclists led "to a place where there is no mud on the streets because of its high temperature."<sup>21</sup> Such admonitions were of no avail, and one writer cleverly noted that "one curious effect which should afford some consolation to Sabbatarians is that theatres in certain cities which were formerly open on Sundays have been closed permanently."<sup>22</sup>

Not all men of religion opposed the bicycle, however. Henry Ward Beecher, as early as 1869, when asked about the coming man and how he would come, answered, "I think he is coming on a velocipede. I shall not be at all surprised," he continued, "to see in a short time a thousand velocipedists wheeling their machines to Plymouth Church."<sup>23</sup> Clergymen themselves started to take up the exercise—Beecher was among the first<sup>24</sup>—and the editor of the *Spectator* wrote that it was proper for a bishop to cycle provided, of course, he didn't "coast downhill on his bicycle with his legs up."<sup>25</sup> And by 1896 the *Boston Daily Advertiser* could write, "It seems to be settled that the majority of the clergymen are in favor of Sunday cycling."<sup>26</sup>

The bicycle was the subject not only of religious but also of medical dispute. In this debate both sides made extravagant claims. The antibicyclists said that the cycle path led straight to the hospital or the grave. They discovered all sorts of new ailments which the cyclist was heir to, including kyphosis bicyclistarum, or bicycle stoop, which was acquired by pedalling in a bent-over position.<sup>27</sup> Cyclist's sore throat was found to occur after a long ride on a dusty road.<sup>28</sup> Perhaps worst of all was bicycle face, a result of the wheelmen's continuous worrying about keeping his equilibrium while he rode.<sup>29</sup> The *Christian Intelligence* added

<sup>21</sup> Joseph B. Bishop, "Social and Economic Influence of the Bicycle," *Forum*, XXI (August 1896), 683.

<sup>22</sup> *Ibid.*

<sup>23</sup> Quoted by J. F. B., *The Velocipede* (London, 1869), p. 99.

<sup>24</sup> *Columbia Bicycle Catalogue* (Boston, 1888), Appendix

<sup>25</sup> "Dignity and Indignity," *The Spectator*, LXXVII (August 29, 1896), 267.

<sup>26</sup> *The Boston Daily Advertiser*, May 13, 1896.

<sup>27</sup> "Kyphosis Bicyclistarum," *Scientific American*, LXIX (July 1, 1893), 10.

<sup>28</sup> "Cyclist's Sore Throat," *The Literary Digest*, XVII (August 13, 1898), 197.

<sup>29</sup> "The Bicycle Face," *The Literary Digest*, XI (September 7, 1895), 548-549.

<sup>12</sup> W. E. W. Collins, "My Friends Who Cycle," *Blackwood's Edinburgh Magazine*, CLIX (June 1896), 884.

<sup>13</sup> Charles E. Pratt, *The American Bicyclist* (Boston, 1879), p. 193.

<sup>14</sup> *The New York Daily Tribune*, July 1, 1895.

<sup>15</sup> Charles E. Pratt, *What and Why* (Boston, 1884), p. 15.

<sup>16</sup> *Ibid.*, p. 45.

<sup>17</sup> *Ibid.*, p. 15.

<sup>18</sup> *Ibid.*, p. 56.

<sup>19</sup> *Ibid.*

<sup>20</sup> *Ibid.*, pp. 45-48; Luther H. Porter, *op. cit.*, p. 154.

that another cause of bicycle face was the habitual violation of the law of the Sabbath by cyclists.<sup>30</sup> Many more "normal" diseases were also laid to the exercise.<sup>31</sup>

The proponents of the bicycle, on the other hand, likened its effects to that of a wonder drug. Among the more important illnesses that it could cure were rheumatism, indigestion, alcoholism, anaemia, gout, liver trouble, and "nerves."<sup>32</sup> At the same time, though not altogether denying the existence of such ills as bicycle face or bicycle stoop, the advocates of the wheel minimized their danger or told how to avoid them. At a meeting of the Academy of Medicine in 1895, doctors advised the average American cyclist that he would not be troubled by bicyclist's stoop if he sat erect.<sup>33</sup> Indeed, Dr. Graeme M. Hammond, in a paper before the same academy, reported that detailed physical examinations of cyclists revealed them to be unusually healthy.<sup>34</sup> An article in the *New York Daily Tribune* maintained that bicycle face was not an illness to be avoided but to be sought after and that

... anybody who rides every day on a wheel and does not acquire the bicycle face lacks character, and is a menace to himself and everybody else when on the road or on the track. The bicycle face denotes strength of mind in the persons who possess it. It means alertness, quick perception and prompt action in emergencies. The idiotic grin of some of the cigarette smoking fellows who make fun of bicycling can never be mistaken for the bicycle face.<sup>35</sup>

There were saner elements among medical authorities, and most of these agreed that cycling for the normal person was a healthful form of exercise. It was especially good because, unlike many forms of athletics, the cyclist did not have to be phenomenally muscular or robust.<sup>36</sup> Of course, these doctors warned, if carried to excess, cycling,

like any physical activity, could be harmful.<sup>37</sup> Most people came to accept this view. An editorial in the *Literary Digest* expressed the common feeling when it said, "The notion has been exploded, happily, that wheeling is a panacea for all ailing folks and for all ailments."<sup>38</sup>

Having thus reviewed the mechanical, legal, religious, and medical skirmishes which preceded the full acceptance of the bicycle, what were the consequences of this acceptance in certain areas of social life? Perhaps the bicycle's greatest impact was upon the American woman. As soon as the safety and the drop frame made it easier for the fair sex to mount and ride, women seized upon the vehicle as a new means of defying tradition. This was the period, it must be remembered, of the suffragettes, when the genteel female was on her way out and women were demanding every form of equality with men. Thus for example, probably because of the reluctance of elderly ladies to learn to ride, it became socially proper for a boy and girl to go cycling without a third party.<sup>39</sup> (Or was it because the bicycle built-for-two had no room for a chaperone?)

For the sake of both comfort and safety, women's clothing was drastically changed. As one female cyclist put it, "On the [bicycle] excursion a special adaptation of dress is absolutely necessary, for skirts, while they have not hindered women from climbing to the topmost branches of higher education, may prove fatal in down-hill coasting."<sup>40</sup> Some of the bolder among the sex easily adapted their dress to cycling by shortening their skirts, shockingly exposing their ankles to view.<sup>41</sup> The courage of some yet more daring women gave America the famous bloomer girl.<sup>42</sup> "Skirts," as one advocate of dress reform was quoted in the

<sup>37</sup> Henry Smith Williams, "The Bicycle in Relation to Health," *Harper's Weekly*, XL (April 11, 1896), 370; Luther H. Porter, *op. cit.*, pp. 187-190.

<sup>38</sup> "In Praise of the Wheel," *loc. cit.*, p. 378.

<sup>39</sup> Joseph B. Bishop, "Social and Economic Influence of the Bicycle," *loc. cit.*, p. 683.

<sup>40</sup> W. H. Fenton, "A Medical View of Cycling for Ladies," *The Nineteenth Century*, XXXIX (May 1896), 800.

<sup>41</sup> Henry J. Garrigues, "Woman and the Bicycle," *Forum*, XX (January 1896), 583.

<sup>42</sup> Although the bloomer had been introduced many years earlier, it was not until women adopted the garment for cycling that it became socially acceptable. *Ibid.*

<sup>30</sup> *Ibid.*

<sup>31</sup> A. L. Benedict, "Dangers and Benefits of the Bicycle," *Century Illustrated Monthly Magazine*, XXXII (July 1897), 471-473; B. W. Richardson, "How Cycling Injures Health," *The Review of Reviews*, I (April 1890), 287-288.

<sup>32</sup> Luther H. Porter, *op. cit.*, pp. 11-19.

<sup>33</sup> John G. Speed, "The Bicycling Era," *Scientific American*, LXXIV (August 24, 1895), 124.

<sup>34</sup> Luther H. Porter, *op. cit.*, pp. 179-188.

<sup>35</sup> *The New York Daily Tribune*, July 14, 1895.

<sup>36</sup> "In Praise of the Wheel," *The Literary Digest*, XIII (July 18, 1896), 378.

*Tribune*, "long or short . . . are bound to go. It is merely a question of time when an unadulterated man's suit . . . will be the universal garb for women, and all this talk and agitation of the question will be forgotten."<sup>43</sup> And bloomers did resemble men's knickerbockers, though they were wider and more flowing. Despite the censure and ridicule directed at them, the women stuck doggedly to the new fashion. "The time for a woman to faint if a man caught sight of her ankle," said the new woman, "has passed."<sup>44</sup>

Public opinion was not entirely unfavorable to this new turn in women's fashion. An editorial in the *Philadelphia Item* was perhaps typical of some of the more tolerant comments. "Let the women alone," it began; "they can work out their own salvation, if they desire to wear bloomers why let them bloom."<sup>45</sup>

The effect of the bicycle on women's clothing was truly revolutionary—within a period of two or three years the bicycle gave the American woman the liberty of dress which reformers had been seeking for generations.<sup>46</sup>

Because women rode bicycles, new problems of etiquette presented themselves. One difficulty which appeared for the first time—and which still plagues us today—was whether it was a man's duty to fix a flat tire for a woman. An editorial in *Harper's Weekly* tried to resolve this problem:

It is recognized as befitting a gentlemen to offer his services in repairing a punctured tire, adjusting a nut, or arranging something that has gone astray with a woman's wheel, and it is not considered improper for a woman to accept his politely proffered services for the mending of a wheel, which he can do better than herself.<sup>47</sup>

But this friendliness and familiarity of the road should not be carried too far; the same editorial frowned on the practice of a male cyclist tipping his hat to a woman rider he did not know.<sup>48</sup> The rule of the right of way at an intersection was a

problem, in those days as in ours. But this magazine's solution was simple and gallant. "A woman," wrote *Harper's*, "should always have the right of way."<sup>49</sup>

Yet, as late as 1896, there continued to be opposition to these newly won freedoms for women. The dissent was led by the Woman's Rescue League of Washington, D. C. This organization claimed that cycling prevented married women from having children, that the new dress was shocking and indecent, and that the new familiarity and companionship with men led to immorality. "Bicycling by young women," a spokesman for the League wrote, "has helped more than any other medium to swell the ranks of reckless girls, who finally drift into the army of outcast women of the United States."<sup>50</sup> But this was definitely a minority opinion; many more of the fair sex considered cycling a step toward even greater freedom. "Many a woman," wrote Mrs. Elizabeth Cady Stanton, "is riding to the suffrage on a bicycle."<sup>51</sup>

As would be expected, the bicycle was an innovation of considerable importance for the American economy. In 1880 the manufacture of bicycles and tricycles<sup>52</sup> was not even listed as a separate industry in the census reports on manufacturing.<sup>53</sup> We may adduce here another reason for the failure of the old ordinary. Every cyclist required a different size of driving wheel, so that this vehicle was not easily adaptable to mass-production techniques.<sup>54</sup> The invention of the safety, however, with its pedals in a position which could be reached by any cyclist, allowed the use of factory methods in bicycle production. In 1889 the volume of orders received by wheel manufacturers and jobbers in Boston, which was then the center of the industry, was unprecedented.<sup>55</sup> And in 1890 the census re-

<sup>49</sup> *Ibid.*

<sup>50</sup> "Crusade against the Wheel for Women," *loc. cit.*, p. 361.

<sup>51</sup> "The Revolutionary Bicycle," *loc. cit.*, p. 334.

<sup>52</sup> President Cleveland, himself, appeared on the streets of Buffalo riding a tricycle—for in these days tricycles were not just toys for children but were expensive gigantic vehicles with the sole advantage of being easier to ride and to dismount than two-wheelers. *Columbia Bicycle Catalogue*, Appendix.

<sup>53</sup> Axel Josephsson, *op. cit.*, p. 325.

<sup>54</sup> Lacy Hillier, "The Cycle Market," *The Contemporary Review*, LXXII (August 1897), 184.

<sup>55</sup> *The Boston Daily Advertiser*, June 4, 1889.

<sup>43</sup> *The New York Daily Tribune*, July 7, 1895.

<sup>44</sup> "Crusade against the Wheel for Women," *The Literary Digest*, XIII (July 18, 1896), 361.

<sup>45</sup> "The Revolutionary Bicycle," *The Literary Digest*, XII (July 20, 1895), 335.

<sup>46</sup> *Scribner's Magazine*, XIX (June 1896), 783; Henry J. Garrigues, "Woman and the Bicycle," *loc. cit.*, p. 578.

<sup>47</sup> "The Etiquette of the Road," *Harper's Weekly*, XL (October 3, 1896), 974.

<sup>48</sup> *Ibid.*



ports listed the manufacture, as well as the repair of bicycles and tricycles, as separate industries.<sup>56</sup>

A few statistics will show the phenomenal expansion of the cycling industry after the introduction of the safety bicycle. In 1890 there were 27 establishments making bicycles and tricycles.<sup>57</sup> By 1900 this number had risen to 312.<sup>58</sup> The total capital investment in 1890 was \$2,058,072;<sup>59</sup> in 1900 it was \$29,783,659.<sup>60</sup> In 1890 establishments manufacturing bicycles employed 1,797 people and paid them a total of \$1,105,728.<sup>61</sup> In 1900 they hired 17,525 and the wage bill had risen to \$9,358,904.<sup>62</sup> Reliable estimates put the total number of bicycles in use during the nineties at ten million in a population approaching seventy-six million.<sup>63</sup> Cycle repairing underwent a similar growth.<sup>64</sup> Furthermore, many companies began to turn out bicycle accessories and found a lucrative market for them. Bicycle lamps, bells, saddles, tools, tires, trouser-clips, rear-view mirrors are typical of the extras of the nineties.<sup>65</sup> All sorts of bicycle clothing were manufactured: bloomers, bicycle stockings, bicycle caps, bicycle shoes, bicycle pants—with reinforced seats, even bicycle corsets were sold.<sup>66</sup> Employment opportunities were offered in riding schools to which thousands flocked.<sup>67</sup> Jordan Marsh and Company of Boston converted one of its floors into a riding academy and offered free lessons to anyone who purchased a wheel there.<sup>68</sup>

<sup>56</sup> *Report of Manufacturing Industries in the United States at Eleventh Census, 1890* (Washington, 1902), part I, 82.

<sup>57</sup> *Ibid.*

<sup>58</sup> *Report of Manufacturing Industries in the United States at Twelfth Census, 1900* (Washington, 1902), part I, 82.

<sup>59</sup> *Report of Manufacturing at Eleventh Census*, part I, 126–127.

<sup>60</sup> *Report of Manufacturing at Twelfth Census*, part I, 82.

<sup>61</sup> Axel Josephsson, *op. cit.*, p. 325.

<sup>62</sup> *Ibid.*

<sup>63</sup> Lloyd Morris, *Not So Long Ago* (New York, 1949), p. 243.

<sup>64</sup> *Report of Manufacturing at Eleventh Census*, part I, 126–127; *Report of Manufacturing at Twelfth Census*, part I, 78–79.

<sup>65</sup> Luther H. Porter, *op. cit.*, pp. 118–176; *The Boston Daily Advertiser*, May 2, 1896.

<sup>66</sup> *The Boston Daily Advertiser*, May 16, 1889; June 11, 1896; April 4, 1889.

<sup>67</sup> *The New York Daily Tribune*, July 14, 1895.

<sup>68</sup> *The Boston Daily Advertiser*, June 15, 1896.

At the same time the price of the safety dropped to about \$60 compared to the \$150 for the ordinary, and by 1900 new bicycles could be purchased for as little as \$18.<sup>69</sup> In addition, the fashion of trading the machine in every year or two had already been established, so that a second-hand “bike” was within the reach of all.<sup>70</sup>

Some industries actually suffered adverse effects from the bicycle boom.<sup>71</sup> Fortunately, many retailers were able to bolster their sagging sales by taking in a stock of roadsters (another name for bicycles). Soon jewelry, shoe, gun, hardware, and department stores were all selling wheels.<sup>72</sup>

The bicycle had its effect on the United States Army, too. Some military men predicted bicyclized warfare. “It is in rapidly moving considerable bodies of infantry,” wrote one officer, “that the bicycle will find its highest function in time of war.”<sup>73</sup> Military maneuvers were held in which the bicycle was used. The Colt Automatic Rifle was mounted on the handle bars of a wheel. The Medical Corps received training in evacuating men on the bicycle.<sup>74</sup> And in 1896, 200 wheels were shipped to Cuba and were probably used in the fighting there.<sup>75</sup>

It was to be expected that bicycling would make its mark in the world of sports. Because of limited space only the slightest summary will be made here of the bicycle’s impact on the American sporting scene. Race tracks cropped up throughout the country and thousands of tournaments enabled amateurs and professionals to vie for honor and reward. Many colleges had bicycle teams which engaged in school meets.<sup>76</sup> The six-day bicycle

<sup>69</sup> *Columbia Bicycle Catalogue* (Boston, 1888), pp. 6–44; *The Boston Daily Advertiser*, March 31, 1896; April 4, 1899.

<sup>70</sup> “Cheaper Wheels,” *The Literary Digest*, XIII (June 13, 1896), 197; *The New York Daily Tribune*, April 26, 1896.

<sup>71</sup> Joseph B. Bishop, “Social and Economic Influence of the Bicycle,” *loc. cit.*, p. 685; “Effect of the Bicycle Boom on Trade,” *loc. cit.*, p. 407.

<sup>72</sup> *Scribner’s Magazine*, XIX (June 1896), 783; “Bicycles and the Book Trade,” *The Literary Digest*, XIII (July 11, 1896), 347.

<sup>73</sup> Major Howard A. Giddings, “The Bicycle in the Army,” *Harper’s Weekly*, XL (April 11, 1896), 364.

<sup>74</sup> *Ibid.*

<sup>75</sup> *The New York Daily Tribune*, May 1, 1896.

<sup>76</sup> *The Boston Daily Advertiser*, May 25, 1896.

race attracted thousands to Madison Square Garden each year.<sup>77</sup> Arthur A. Zimmerman was the Di Maggio of bicycle racing and the idol of a considerable segment of American youth. His speed on the wheel earned him \$40,000 annually.<sup>78</sup> To help keep the sport honest, the League of American Wheelmen took charge of professional racing in 1895.<sup>79</sup>

But easily the greatest significance of the bicycle was the interference it ran for the automobile. The bicycle did the dirty work for its mechanized successor in a variety of ways. We may first mention the adoption in cycle manufacturing of assembly-line techniques. Standardization had been perfected to such a degree that the manufacturing company no longer constructed the entire bicycle under its own roof, but had merely to assemble the parts which smaller companies had contracted to make.<sup>80</sup> The importance of this method for automobile manufacture is obvious. As a matter of fact, the census of 1900 noted that 56 automobiles had in that year been made in bicycle factories.<sup>81</sup> The census report even classified the auto under the general heading of bicycle.<sup>82</sup>

The abundance of repair shops—there were 6,328 of them in 1900—was another of the bicycle's gifts to the automobile.<sup>83</sup> Not only did these become the logical repair places for the auto, but they were the training schools for a group of mechanics who could easily turn from the bicycle when the new vehicle became popular. Charles and Frank Duryea owned such a bicycle repair shop in Springfield, Massachusetts, and it was here that they built the first American automobile.<sup>84</sup>

By carrying on effective agitation for road repairs and construction, the cyclists rendered still another inestimable service to future autoists. Without good roads the automobile could never have succeeded: the earliest autos had had to be put on tracks because they could not be made to run effectively on the English highways of their day; hence they became locomotives, with all the

limitations that tracks entailed.<sup>85</sup> Privately built and operated turnpikes, which had once given the United States good roads, had become unprofitable because of the railroads.<sup>86</sup> Furthermore, road construction and maintenance were the responsibilities of the cities and towns and not of the federal or state governments.<sup>87</sup> As a result, the roads were rough and rutted, muddy in the spring, sandy and dusty all summer.<sup>88</sup>

To the League of American Wheelmen goes most of the credit for road reform in the eighties and nineties. Under its direction, pamphlets and books—including the *Good Roads* magazine—urging reform were written and distributed.<sup>89</sup> In Washington the League lobbied unsuccessfully for a federal highway, but did succeed in 1893 in getting the national government to create the Office of Public Roads Inquiries.<sup>90</sup> Other returns for this effort began to roll in. By 1896, 16 states appropriated money to improve their roads.<sup>91</sup> Several states—Massachusetts and New Jersey were the first—also established state control of roads through a central highway commission. In Massachusetts, all the members of the State Highway Commission belonged to the L.A.W.<sup>92</sup> In Iowa and Kentucky, the custom was begun of putting convicts to building and repairing roads.<sup>93</sup>

In still other ways the League of American Wheelmen sought to improve roads. The League backed legislation for lighted streets and for erecting guideposts at intersections with the names of streets.<sup>94</sup> This remarkable organization even built signs on the road marking the danger spots; these signs would be sent free to any place in the country by the Committee on Danger Signs.<sup>95</sup> In like manner, the League constructed signposts with important travel information, such as direction and

<sup>85</sup> A. L. Kroeber, *Anthropology* (New York: Harcourt, Brace and Company, 1948), pp. 358–359.

<sup>86</sup> Nathaniel S. Shaler, *American Highways* (New York, 1896), pp. 93–95.

<sup>87</sup> *Ibid.*, pp. 89–90.

<sup>88</sup> Lloyd Morris, *op. cit.*, p. 241.

<sup>89</sup> Isaac B. Potter, "The Bicycle's Relation to Good Roads," *Harper's Weekly*, XL (April 11, 1896), 362.

<sup>90</sup> Lloyd Morris, *op. cit.*, p. 242.

<sup>91</sup> Isaac B. Potter, "The Bicycle's Relation to Good Roads," *loc. cit.*, p. 362.

<sup>92</sup> *Ibid.*

<sup>93</sup> *Ibid.*

<sup>94</sup> Isaac B. Potter, *Cycle Paths* (Boston, 1898), pp. 6–23.

<sup>95</sup> *Ibid.*, p. 80ff.

<sup>77</sup> *The New York Daily Tribune*, December 10, 1897.

<sup>78</sup> *The Bicycling World* (April 20, 1894), p. 665.

<sup>79</sup> *The New York Daily Tribune*, July 13, 1895.

<sup>80</sup> Axel Josephsson, *op. cit.*, p. 328.

<sup>81</sup> *Ibid.*

<sup>82</sup> *Ibid.*

<sup>83</sup> *Report of Manufacturing at Twelfth Census*, part I, 78.

<sup>84</sup> Lloyd Morris, *op. cit.*, p. 229.

distances of neighboring cities.<sup>96</sup> League members were asked to record their mileage on cycling trips, so that this information would be available.<sup>97</sup> These services were important not only to cyclists but also to riders of the new horseless carriages.

The pressure of millions of wheels on the road during the nineties compelled the passage of a new series of laws regulating their use. Many states required cyclists to purchase licenses for their wheels; in some cases the money derived from this source was used to keep roads in repair.<sup>98</sup> New Jersey was the first state to require bicycles to be lighted at night and also be equipped with a bell to give a warning signal.<sup>99</sup> Riding on sidewalks was prohibited in virtually all states.<sup>100</sup> Successful lobbying on the part of the League of American Wheelmen brought about statutes requiring that names and addresses be exchanged in case of accidents.<sup>101</sup> Wheelmen in Massachusetts, Michigan, and New Hampshire were obliged to keep to the right side of the road except when passing.<sup>102</sup> Though not yet a matter of law many cyclists voluntarily began the practice of passing on the left and giving hand signals when turning.<sup>103</sup> Speed limits were set at ten miles per hour on the highways and eight miles in the public parks, but these laws were apparently frequently violated and the phrase "fined for scorching" became a familiar one.<sup>104</sup>

Along with these laws and practices and their infractions, the system of enforcement was part of the legacy which the bicycle bequeathed to the automobile when the latter began its reign in the twentieth century. For the speed demon, so familiar to the modern American scene, dates back to the coming of the bicycle and jeopardized the lives of pedestrians and other wheelmen. So many accidents occurred that a new obituary column entitled "Death by the Wheel," appeared in newspapers.<sup>105</sup> Cyclists boasted about the close shaves

they experienced on the road.<sup>106</sup> Since the scorches could outdistance police on horseback, police methods had to be modernized.

Many cities coped with this problem by equipping squadrons of bicycle cops.<sup>107</sup> Daring races between bicycle policemen and scorches became common; the public enjoyed these free contests and, more often than not, cheered the speedster—especially a female one—and hissed the officer.<sup>108</sup> Not only was the wheel effective in combating scorches, but policemen also found it an efficient instrument when covering their beats—a foreshadowing of the patrol car.<sup>109</sup>

It was the bicycle which gave rise in the nineties to that new type of mobility which became so characteristic of the twentieth century. In the earlier part of the century, horses and carriages were only for the more well-to-do. The average city worker and his family, except for an occasional railroad trip, rarely left their place of residence. But the wheel made it possible for Americans to visit the country-side and neighboring towns.<sup>110</sup> Despite the inadequacy of the roads, the cyclist thought little of covering twenty-five to fifty miles in the course of a Sunday.<sup>111</sup> Often the whole family participated in these outings; the children all had bicycles of their own, and the parents might have had a convertible—a tandem bicycle which could also be used as a single safety.<sup>112</sup> The way-side inn, so much a part of the American scene today, was rescued from oblivion by the bicycle. The hostelry, because of the railroads, had been on the point of extinction, until hordes of hungry and thirsty wheelmen in the nineties thronged the country roads.<sup>113</sup>

In the summer time many people went on bicycle journeys in much the same way as we today go on automobile trips.<sup>114</sup> Of course, they didn't

<sup>96</sup> *Ibid.*

<sup>97</sup> Isaac B. Potter, "The Bicycle's Relation to Good Roads," *loc. cit.*, p. 362.

<sup>98</sup> Isaac B. Potter, *Cycle Paths*, p. 72.

<sup>99</sup> *Ibid.*, p. 77.

<sup>100</sup> *Ibid.*

<sup>101</sup> *Ibid.*, p. 80ff.

<sup>102</sup> Luther H. Porter, *op. cit.*, p. 158.

<sup>103</sup> "The Etiquette of the Road," *Harper's Weekly*, XL (October 3, 1896), 973.

<sup>104</sup> *The Boston Daily Advertiser*, May 16, 1896.

<sup>105</sup> "Cyclomania," *The Living Age*, CCXV (November 13, 1897), 470.

<sup>106</sup> *Ibid.*, p. 471.

<sup>107</sup> *The Boston Daily Advertiser*, May 14, 1896.

<sup>108</sup> *The New York Daily Tribune*, May 2, 1896.

<sup>109</sup> *The Boston Daily Advertiser*, May 14, 1896.

<sup>110</sup> "The Charm of the Bicycle," *Scientific American*, LXXX (May 13, 1899), 292; Henry J. Garrigues, "Woman and the Bicycle," *loc. cit.*, p. 578.

<sup>111</sup> Henry J. Garrigues, *op. cit.*, p. 578.

<sup>112</sup> Luther H. Porter, *op. cit.*, pp. 163-164.

<sup>113</sup> Henry J. Garrigues, "Woman and the Bicycle," *loc. cit.*, p. 578; Isaac B. Potter, "The Bicycle's Relation to Good Roads," *loc. cit.*, p. 362.

<sup>114</sup> J. Cleveland Cady, "The Vacation Awheel," *The Outlook*, LVI (June 5, 1897), 304-305.



cover as much mileage as we do, but these hardy Americans did cover several hundred miles.<sup>115</sup> The League of American Wheelmen provided its two hundred thousand members with maps which marked out the best roads and listed hotels at which members received discounts, and even took the trouble of advising members not to disclose their League affiliation until their stay was over lest they be put in poorer accommodations because of the rebate.<sup>116</sup> "Unlike the steam car," wrote one cycling vacationist, "the bicycle takes one to the out-of-the-way places and scenes; unlike the horse, it is not a source of care and anxiety, or liable to serious ills on the way."<sup>117</sup>

But not only were many Americans enabled to visit the country, but many also found it possible

<sup>115</sup> *Ibid.*

<sup>116</sup> Luther H. Porter, *op. cit.*, p. 179.

<sup>117</sup> J. Cleveland Cady, "The Vacation Awheel," *loc. cit.*, pp. 304-305.

to live on the outskirts of the city and cycle into and home from work.<sup>118</sup> Many could afford to make this change because suburban rents were still as low as tenement rents.<sup>119</sup>

Thus it can be concluded that the bicycle provided a preview on a miniature scale of much of the social phenomena which the automobile enlarged upon. Of course, the automobile, for the most part, displaced the bicycle as a means of transportation, but made full use of the institutions which accompanied the two-wheeled vehicle. At any rate, an early cyclist hardly realized how right he was when he said, with the bicycle in mind, "Walking is now on its last legs."<sup>120</sup>

<sup>118</sup> Joseph B. Bishop, "Social and Economic Influence of the Bicycle," *loc. cit.*, p. 689; A. L. Benedict, "Dangers and Benefits of the Bicycle," *loc. cit.*, p. 472.

<sup>119</sup> A. L. Benedict, *op. cit.*, p. 472.

<sup>120</sup> J. F. B., *The Velocipede*, ii.

#### INSTITUT FUER SOCIALFORSCHUNG

The *Institut fuer Sozialforschung* was formally reopened at the University of Frankfurt on November 14, 1951, after an absence of nearly nineteen years enforced by the Nazi regime. Its director is Max Horkheimer, Professor of Philosophy and Sociology (and currently Rector) at the University, who has held the post of director of the Institut continuously since 1939, from 1934 to 1949 in the United States.

Reestablishment of the Institut in Frankfurt, as an autonomous body affiliated with the University, was made possible through the international cooperation of many scholars and public figures. The international aspect was stressed at the dedication ceremony; participants included representatives of the Institut, the University, the American High Commission, and the German government. Professor René König of the University of Zurich spoke for the International Sociological Association, and Professors Leopold von Wiese and Milton Mayer for German and American scholarship, respectively. Funds for the new building were made available by the American High Commission, the city of Frankfurt, the government of Hesse, and private sources.

The Institut's program, Professor Horkheimer reported, will continue to be built on the integration of philosophy with sociology, economics, and psychology, and on combining the emphasis on theory that characterizes the German tradition with the rigorous empirical methods that have been the specific American contribution to sociology. Major research projects at present center on the intellectual and emotional effects of the Nazi period on Germany, German attitudes toward America, and a comparative analysis of the impact of foreign propaganda on post-war Germany. In these projects a newly developed method of recorded panel discussions with selected samples of the German population is being applied.